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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ABEL JALIL, NEVEEN

ART UNIT PAPER NUMBER

2165

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,369

Applicant(s)

COOKE ET AL.

Examiner

Neveen Abel-Jalil

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-19 is/are allowed.
- 6) ☒ Claim(s) 1-10, and 20-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.


SAM RIMELL
PRIMARY EXAMINER

DETAILED ACTION

Remarks

1. The amendment filed on July 26, 2004 has been received and entered. Claims 1-25 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10, and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoover et al. (U.S. Patent No. 5, 560, 005) in view of Cohen (U.S. Patent No. 6,542,907 B1).

As to claim 1, Hoover et al. discloses a system for managing identifiers in a database replication network, comprising:

a database comprising a plurality of data items (See column 38, lines 30-50);

an ID space including a number of identities (IDs) for identifying data items included in the database (See column 22, lines 4-40);

a replica of at least a portion of the data items in the database, the replica comprising an existing range of IDs allocated to the replica from the ID space (See column 21, lines 56-67, and see column 54, lines 41-58);

a replica ID manager associated with the replica for requesting a new range of IDs from the ID space when IDs in the existing range of IDs reaches a predetermined threshold (See column 3, lines 26-63, also see column 4, lines 51-65, and see column 6, lines 15-40); and

an ID administrator associated with the ID space, the ID administrator configured for receiving requests for ranges of IDs, the ID administrator configured for allocating a new range of IDs to the replica in response to the request from the replica ID manager, a size of the new range of IDs of the replica (See column 29, lines 1-67, also see column 21, lines 1-67).

Hoover et al. does not teach being selected based upon an ID usage rate.

Cohen teaches being selected based upon an ID usage rate (See abstract, also see column 8, lines 1-37, and see column 9, lines 1-22).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Hoover et al. to include being selected based upon an ID usage rate.

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Hoover et al. by the teaching of Cohen to include being selected based upon an ID usage rate because it allows for efficient database management and synchronization of replicas.

As to claim 2, Hoover et al. as modified discloses wherein the ID administrator is a subsystem of the database (See column 22, lines 1-46).

As to claim 3, Hoover et al. as modified discloses wherein the database further comprises an interface for receiving the request from the replica ID manager and for transferring the new range of IDs to the replica ID manager (See column 29, lines 1-59, and see column 22, lines 18-40).

As to claim 4, Hoover et al. as modified discloses wherein the ID administrator is resident at a different site than the database, and wherein the database and the ID administrator comprise interfaces for communicating with each other via a communications link (See column 29, lines 1-59, also see column 46, lines 38-67).

As to claim 5, Hoover et al. as modified discloses wherein the replica ID manager is configured for assigning IDs from the replica ID space to data items in the replica to identify the respective data items (See Hoover et al. column 54, lines 18-65, also see Hoover et al. column 61, lines 41-67, and see Cohen column 5, lines 1-45).

As to claim 6, Hoover et al. as modified discloses wherein the ID administrator is configured for allocating the new range of IDs such that the new range of IDs excludes any IDs previously allocated to a replica (See Cohen column 1, lines 59-62, and see Cohen column 5, lines 1-21).

As to claim 7, Hoover et al. as modified discloses wherein the ID administrator is configured for calculating the size of the new range of IDs based upon the ID usage rate of the

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replica (See Cohen abstract, also see Cohen column 8, lines 1-37, and see Cohen column 9, lines 1-22).

As to claim 8, Hoover et al. as modified discloses wherein the replica ID manager is configured for calculating the size of the new range of IDs based upon the ID usage rate of the replica, and wherein the replica ID manager includes the size in the request for a new range of IDs (See Cohen abstract, also see Cohen column 8, lines 1-37, and see Cohen column 9, lines 1-22, also see Hoover et al. column 55, lines 25-62, and see Hoover et al. column 22, lines 4-61).

As to claim 9, Hoover et al. as modified discloses wherein the replica ID manager is configured for adjusting the predetermined threshold based upon a usage rate of IDs by the replica (See Cohen column 11, lines 35-67, wherein “threshold” reads on “bounded length”, also see Hoover et al. column 22, lines 4-26).

As to claim 10, Hoover et al. discloses a system for managing identifiers in a database replication network of a database, comprising:

a database comprising a plurality of data items (See column 38, lines 30-50);

an ID space including a number of identities (IDs) for identifying data items included in the database (See column 22, lines 4-40);

a replica of at least a portion of the data items in the database, the replica comprising an existing range of IDs allocated to the replica from the ID space (See column 38, lines 30-50);

an ID manager associated with the replica for monitoring usage of IDs by the replica, the ID manager configured for submitting a request for a new range of IDs, the request comprising a size of the new range of IDs by the replica (See column 3, lines 26-63, also see column 4, lines 51-65, and see column 6, lines 15-40); and

an ID administrator associated with the ID space, the ID administrator configured for receiving the request from the ID manager and for allocating a new range of IDs to the replica in response to the request, the new range of IDs comprising the size requested by the ID manager (See column 29, lines 1-67, also see column 21, lines 1-67).

Hoover et al. does not teach being selected based upon an ID usage rate.

Cohen teaches being selected based upon an ID usage rate (See abstract, also see column 8, lines 1-37, and see column 9, lines 1-22).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Hoover et al. to include being selected based upon an ID usage rate.

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Hoover et al. by the teaching of Cohen to include being selected based upon an ID usage rate because it allows for efficient database management and synchronization of replicas.

As to claim 20, Hoover et al. discloses a method for managing identifiers allocated to a plurality of replicas of a database comprising a data space including a plurality of data items, and

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a global ID space comprising a plurality of identities (IDs) for identifying data items (See column 11, lines 30-46), the method comprising:

providing a replica of the database, the replica comprising a replica ID space comprising a plurality of IDs allocated from the global ID space (See column 28, lines 31-46, also see column 21, lines 56-67, and see column 22, lines 1-40);

submitting a request for a new range of IDs from the global ID space when the IDs from the plurality of IDs remaining unused by the replica reaches a predetermined threshold, the request comprising a size of the new range of IDs being requested, the size being based upon the replica (See column 29, lines 1-67, also see column 21, lines 1-67).

Hoover et al. does not teach monitoring usage of IDs by the replica; and being selected based upon an ID usage rate.

Cohen teaches monitoring usage of IDs by the replica; and being selected based upon an ID usage rate (See abstract, also see column 8, lines 1-37, and see column 9, lines 1-22).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Hoover et al. to include monitoring usage of IDs by the replica; and being selected based upon an ID usage rate.

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Hoover et al. by the teaching of Cohen to include monitoring usage of IDs by the replica; and being selected based upon an ID usage rate because it allows for efficient database management and synchronization of replicas.

As to claim 21, Hoover et al. as modified discloses wherein the size of the new range of IDs is selected based upon at least one of an average usage rate of IDs, a current usage rate of IDs, and a rate of change of usage rate of IDs over time by the replica (See Cohen abstract, also see Cohen column 8, lines 1-37, and see Cohen column 9, lines 1-22).

As to claim 22, Hoover et al. as modified discloses wherein the replica comprises a first replica, and wherein the first replica intermittently communicates with a second replica of the database for synchronizing data between the first and second replicas (See column 24, lines 25-59).

As to claim 23, Hoover et al. as modified discloses wherein the size of the new range of IDs is selected to provide sufficient numbers of IDs for the first replica to satisfy ID usage by the first replica between successive communications with the second replica (See Cohen abstract, also see Cohen column 8, lines 1-37, and see Cohen column 9, lines 1-22, and see Hoover et al. column 54, lines 26-67).

As to claim 24, Hoover et al. as modified discloses wherein the second replica comprises a master copy of the database (See column 55, lines 1-62).

As to claim 25, Hoover et al. as modified discloses wherein the replica intermittently communicates with an ID administrator managing the global ID space, and wherein the size of the new range of IDs is selected to provide sufficient numbers of IDs for the replica to satisfy ID

usage by the replica between successive communications it with the ID administrator (See column 21, lines 26-67, and see column 22, lines 26).

Reasons for Allowance

4. Claims 11-19 are allowed over the prior art made of record.

5. The following is a statement of reasons for allowance:

The prior art of record (Hoover et al. U.S. Patent No. 5, 560, 005 – and Cohen -U.S. Patent No. 6,542,907 B1) does not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), a method for managing identifiers allocated to a plurality of replicas of a database comprising a data space including a plurality of data items, and an ID space comprising a plurality of identities (IDs) for identifying data items, the method comprising: allocating a first range of IDs $n.sub.1$ from the ID space to a first replica of the database, the IDs in the first range ranging from (x) to $(x+n.sub.1-1)$, x being an integer; allocating a second range of IDs $n.sub.2$ from the ID space to a second replica of the database, the IDs in the second range ranging from (y) to $(y+n.sub.2-1)$, y being an integer greater than $(x+n.sub.1-1)$; receiving a request from a replica of the master database for a third range of IDs; and providing the third range of IDs from the ID space to the requesting replica, a size $n.sub.3$ of the third range of IDs being selected based upon a usage rate of IDs by the requesting replica, the IDs in the third range ranging from (z) to $(z+n.sub.3-1)$, z being an integer greater than $(y+n.sub.2-1)$, as claimed in claim 18.

Claim 19 is allowed over the prior art made of record, because it is dependent from the allowed independent claim 18.

The prior art of record (Hoover et al. U.S. Patent No. 5, 560, 005 – and Cohen -U.S. Patent No. 6,542,907 B1) does not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), a method for managing identifiers allocated to one or more replicas of a database, the database comprising a data space comprising a plurality of data items, a global ID space comprising a plurality of identities (IDs) for identifying data items, the method comprising:

allocating a first range of IDs from the global ID space to a replica of the database; receiving a request from the replica for a second range of IDs; and providing a second range of IDs from the global ID space to the replica, a size of the second range of IDs being selected based upon a usage rate of IDs by the replica, as claimed in independent claim 11.

Claims 12-17 are allowed over the prior art made of record, because it is dependent from the allowed independent claim 11.

Response to Arguments

6. Applicant's arguments filed on July 26, 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that "Cohen does not teach or suggest an ID administrator configured for receiving requests for ranges of IDs for ranges of IDs for identifying

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data items from replicas, and for allocating a new range of IDs to the replica in response to request from the replica ID manager; a size of the new ranges of IDs being selected based upon an ID usage rate of the replica” is acknowledged but is not deemed to be persuasive.

The Examiner points to the combination of Cohen and the teachings of Hoover et al. to teach the above limitation. Cohen in column teaches selected based on usage rate of the ID replica in column 8, lines 1-37, and column 9, lines 1-22; while Hoover et al. teaches adding new IDs from permitted access to a global system in column 29, lines 20-67, and column 30, lines 1-56, indicating the addition of IDs based on request in the global system.

In response to applicant’s argument that “Cohen does not provide additional teaching or suggestion that maybe properly combined with the Hoover et al. reference because it is directed to entirely different problem” is acknowledged but is not deemed to be persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner is establishing motivation in obviousness in the knowledge generally available to one of ordinary skill in the art, to modify the invention of Hoover et al. with the teachings of Cohen to teach the limitation of ID usage rate as explained above and more significantly the individual problems that either reference teaches are not in consideration here as

they are now considered whole and treated as one. The basis of each reference is directed to IDs in database environment. Hoover et al. teaches ID tables and replications (See Hoover et al. column 3, lines 14-67). While, Cohen teaches replica identifiers in a predetermined integer range and a globally unique space (See Cohen column 2, lines 46-67, prior art, also see Cohen column 14, lines 33-67, also see Cohen column 15, lines 1-4, wherein other than previously used indicates a tracking of replica identifiers already assigned or will be assigned).

In response to applicant's argument that "Neither of the cited references discloses, teaches, or suggests submitting a request for a new range of IDs for a replica from a global ID space, a size of the new range of IDs being based upon usage rate of IDs by the replica" is fully acknowledged but is not deemed to be persuasive.

The Examiner points to the combination of Cohn and Hoover et al. that teaches assigning unique replica IDs in the global space. Hoover et al. teaches ID tables and replications (See Hoover et al. column 3, lines 14-67). While, Cohen teaches replica identifiers in a predetermined integer range and a globally unique space (See Cohen column 2, lines 46-67, prior art, also see Cohen column 14, lines 33-67, also see Cohen column 15, lines 1-4, wherein other than previously used indicates a tracking of replica identifiers already assigned or will be assigned).

Conclusion


7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 703-305-8114. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SAM RIMELL
PRIMARY EXAMINER